

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A memory cell comprising:

a first electrode ~~deposited on~~ over a substrate ~~body~~;

a second electrode, wherein the first electrode and the second electrode provide electrical access to ~~the~~ a memory cell body;

~~a first layer of~~ a silver chalcogenide layer disposed between the first electrode and the second electrode, where the first layer forms a first portion of a the memory cell body; and

~~a second layer of a rigid chalcogenide glass layer, that forms a second portion of the memory cell body,~~ wherein the second rigid chalcogenide glass layer is also disposed between the first electrode and the second electrode and forms a second portion of the memory cell body, wherein the rigid chalcogenide glass ~~permits~~ comprises silver chalcogenide material from said silver chalcogenide layer in an amount such that a conductive pathway ~~to~~ can form ~~between the first electrode and the second electrode in said rigid chalcogenide glass layer~~ in response to an electric potential applied between the first electrode and the second electrode.

2. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein ~~the first layer of~~ the silver chalcogenide layer is formed directly on the first electrode.

3. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein ~~the second layer of the~~ rigid chalcogenide glass layer is formed directly on the first electrode.

4. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the silver chalcogenide layer comprises silver selenide.

5. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the silver chalcogenide layer comprises silver sulfide.

6. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the silver chalcogenide layer comprises silver telluride.

7. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the silver chalcogenide layer comprises silver oxide.

8. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the rigid chalcogenide glass layer comprises germanium selenide ($\text{Ge}_x\text{Se}_{(1-x)}$).

9. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the rigid chalcogenide glass layer comprises arsenic selenide (As_xSe_y).

10. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the rigid chalcogenide glass layer comprises germanium sulfide ($\text{Ge}_x\text{S}_{(1-x)}$).

11. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein the rigid chalcogenide glass ~~is selected from the group of chalcogenide glasses that~~

~~comprise~~ layer comprises selenium[[,]] and can be doped with silver, ~~and can~~ but remain an amorphous material ~~after the doping with silver.~~

12. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, further comprising ~~a third layer of a silver (Ag) that forms a third portion of the memory cell body, where the third layer is also~~ layer disposed between the first electrode and the second electrode, ~~where the first layer, the second layer, and the third layer are arranged such that the second layer of chalcogenide glass is disposed between the first layer of the silver chalcogenide and the third layer of silver (Ag) wherein said silver layer forms a third portion of said memory cell body.~~

13. (Currently Amended) The memory cell ~~as defined in~~ of Claim 1, wherein at least one of the first electrode and the second electrode comprises tungsten (W).

14-27. (Cancelled)

28. (Withdrawn) A deposition process of fabricating at least a portion of an integrated circuit, the process comprising:

forming a bottom electrode in contact with a conductive region in a semiconductor base material;

forming a layer of a chalcogenide glass;

forming a layer of a silver chalcogenide, where the layer of the chalcogenide glass and the layer of the silver chalcogenide are adjacent to each other and form an

active layer that is capable of supporting the formation of a conductive pathway in the presence of an electric field; and

forming a top electrode layer such that the layer of the chalcogenide glass and the layer of the silver chalcogenide are disposed between the top electrode layer and the bottom electrode layer, where an electric potential applied between the top electrode layer and the bottom electrode layer generates the electric field in the active layer.

29. (Withdrawn) The process as defined in Claim 28, wherein the layer of chalcogenide glass is germanium selenide ($\text{Ge}_x\text{Se}_{(1-x)}$), and where the process forms the layer of chalcogenide glass to a thickness within a range of about 200 Angstroms (\AA) to about 1000 \AA .

30. (Withdrawn) The process as defined in Claim 28, wherein the chalcogenide glass comprises germanium selenide ($\text{Ge}_x\text{Se}_{(1-x)}$).

31. (Withdrawn) The process as defined in Claim 28, wherein the chalcogenide glass comprises arsenic selenide (As_2Se_3).

32. (Withdrawn) The process as defined in Claim 28, wherein the chalcogenide glass comprises germanium sulfide ($\text{Ge}_x\text{S}_{(1-x)}$).

33. (Withdrawn) The process as defined in Claim 28, wherein the silver chalcogenide comprises silver selenide.

34. (Withdrawn) The process as defined in Claim 28, wherein the silver chalcogenide comprises silver sulfide.

35. (Withdrawn) The process as defined in Claim 28, wherein the silver chalcogenide comprises silver telluride.

36. (Withdrawn) The process as defined in Claim 28, wherein the silver chalcogenide comprises silver oxide.

37. (Withdrawn) The process as defined in Claim 28, wherein the process forms the layer of the chalcogenide glass and the layer of silver chalcogenide by evaporative deposition.

38. (Withdrawn) The process as defined in Claim 28, wherein the process forms the layer of the chalcogenide glass and the layer of silver chalcogenide by sputtering deposition.

39-45. (Cancelled)